

REMARKS

Applicants thank the Examiner for the consideration given the present application.

Claims 4-24 are now present in this application. Claims 4, 5, 8 and 12 are independent.

By this Amendment, claim 3 has been canceled without prejudice, and claims 21-24 are added. No new matter is involved.

Reconsideration of this application, as amended, is respectfully requested.

Rejection Under 35 U.S.C. § 102

Claims 4-6 and 10 stand rejected under 35 U.S.C. § 102(b) as being anticipated by DE 75 13 261 (DE '261"). This rejection is respectfully traversed.

Applicants thank the Examiner for furnishing an English language translation of DE '261.

During patent examination the PTO bears the initial burden of presenting a *prima facie* case of unpatentability. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444(Fed. Cir. 1992); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788(Fed. Cir. 1984). This burden can be satisfied when the PTO presents evidence, by means of some teaching, suggestion or inference

either in the applied prior art or generally available knowledge, that would have appeared to have suggested the claimed subject matter to a person of ordinary skill in the art or would have motivated a person of ordinary skill in the art to combine the applied references in the proposed manner to arrive at the claimed invention. See Carella v. Starlight Archery Pro Line Co., 804 F.2d 135, 140, 231 USPQ 644, 647 (Fed. Cir. 1986); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); In re Rinehart, 531 F.2d 1048, 1051-1052, 189 USPQ 143, 147 (CCPA 1976).

If the PTO fails to meet this burden, then the applicant is entitled to the patent. However, when a *prima facie* case is made, the burden shifts to the applicant to come forward with evidence and/or argument supporting patentability. Patentability *vel non* is then determined on the entirety of the record, by a preponderance of evidence and weight of argument.

A prior art reference anticipates the subject matter of a claim when that reference discloses every feature of the claimed invention, either explicitly or inherently. In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997) and Hazani v. Int'l Trade Comm'n, 126 F.3d 1473, 1477, 44 USPQ2d 1358, 1361 (Fed Cir. 1997). While, of course, it is possible that it is inherent in the operation of the prior art device that a particular element operates as theorized by the Examiner, inherency may not be established by

probabilities or possibilities. In re Oelrich, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981) and In re Rijckaert, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993).

What is alleged to be inherent must necessarily occur. The mere fact that something *may* result from a given set of circumstances is not sufficient. In re Oelrich, 212 USPQ 323, 326 (CCPA 1991). "Inherent anticipation requires that the missing descriptive material is 'necessarily present,' not merely probably or possibly present, in the prior art." Trintec Indus., Inc. v. Top-U.S.A. Corp., 295 F.3d 1292, 1295, 63 USPQ2d 1597, 1599 (Fed. Cir. 2002) (quoting In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999)).

It appears from the Office-furnished translations that pending claims 4-6 and 10 are not anticipated by DE 75 13 261 for the following reasons.

With respect to claim 4, this claim positively recites a combination of features including that the valve spring has different elastic stiffness at both sides from its center.

The Office Action relies on page 5, lines 5-7 of the translation to support the conclusion that DE '261's spring discloses a side of its spring 3 with greater elastic stiffness.

Applicants respectfully disagree with this conclusion. Actually, all that DE '261 discloses on page 5, lines 5-7 of the translation is that "by this design

of the catch 4 the valve spring is tensioned more on one side (left) than the other side (right).” Tension is another term for force, and has nothing to do with the stiffness of the spring. It merely means that a greater force is placed on the left side of the spring 3 of DE ‘261. DE ‘261’s spring 3 presumably has a uniform stiffness absent a disclosure that spring 3 has a non-uniform stiffness. Nothing in the written description or the claims or the drawings of DE ‘261 indicates that its spring 3 has one side with greater elastic stiffness than another side. In contrast, Figure 4 of DE ‘261 shows a spring with the same number of spring windings on both sides from its center such that each side has the same elastic stiffness.

Applicants respectfully submit that the stiffness of a spring is determined by how much force it takes to compress it a unit of distance. For instance, if 100 pounds of force is applied to a spring and it compresses 1 inch, its spring constant is 100lb/in. Once one knows the spring constant, one can calculate how much the spring will compress for any amount of force applied. Another way of explaining spring stiffness is by stating that spring stiffness equals force per unit displacement

In DE ‘261, whereas the amount of force applied to different sides of spring 3 differs, the amount of force per unit displacement of spring 3 remains the same, i.e., the physical characteristics of the spring are uniform and do not

differ in the number of windings, for example.

Not only is there no explicit disclosure of spring 3 having one side with a greater elastic stiffness than another side, but there is no inherent (i.e., necessarily) disclosure of such a feature, either, in DE '261.

Moreover, independent claim 5 positively recites a combination of features, including a side of a valve spring with greater elastic stiffness, as do dependent claims 6 and 10.

Accordingly, the Office Action does not make out a *prima facie* case that claims 4-6 and 10 are anticipated by DE '261.

Reconsideration and withdrawal of this rejection of claims 4-6 and 10 are respectfully requested.

Rejections under 35 U.S.C. §103

Claims 3, 8, 12, 13, 14-16, 19 and 20 stand rejected under 35 USC §103(a) as being unpatentable over DE 75 13 261.

Because the rejection is based on 35 U.S.C. §103, what is in issue in such a rejection is "the invention as a whole," not just a few features of the claimed invention. Under 35 U.S.C. §103, "[a] patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art

to which said subject matter pertains." The determination under §103 is whether the claimed invention as a whole would have been obvious to a person of ordinary skill in the art at the time the invention was made. See In re O'Farrell, 853 F.2d 894, 902, 7 USPQ2d 1673, 1680 (Fed. Cir. 1988). In determining obviousness, the invention must be considered as a whole and the claims must be considered in their entirety. See Medtronic, Inc. v. Cardiac Pacemakers, Inc., 721 F.2d 1563, 1567, 220 USPQ 97, 101 (Fed. Cir. 1983).

In rejecting claims under 35 U.S.C. § 103, it is incumbent on the Examiner to establish a factual basis to support the legal conclusion of obviousness. See, In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one of ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal Inc. v. F-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hospital Systems, Inc. v. Montefiore

Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part of complying with the burden of presenting a *prima facie* case of obviousness. Note, In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992). To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be suggested or taught by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1970). All words in a claim must be considered in judging the patentability of that claim against the prior art. In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

A showing of a suggestion, teaching, or motivation to combine the prior art references is an “essential evidentiary component of an obviousness holding.” C.R. Bard, Inc. v. M3 Sys. Inc., 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998). This showing must be clear and particular, and broad conclusory statements about the teaching of multiple references, standing alone, are not “evidence.” See In re Dembiczak, 175 F.3d 994 at 1000, 50 USPQ2d 1614 at 1617 (Fed. Cir. 1999).

Moreover, it is well settled that the Office must provide objective evidence

of the basis used in a prior art rejection. A factual inquiry whether to modify a reference must be based on objective evidence of record, not merely conclusory statements of the Examiner. See, In re Lee, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002).

Furthermore, during patent examination, the PTO bears the initial burden of presenting a *prima facie* case of unpatentability. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). If the PTO fails to meet this burden, then the Applicant is entitled to the patent. Only when a *prima facie* case is made, the burden shifts to the applicant to come forward to rebut such a case.

Initially, this rejection is moot with respect to claim 3, which has been canceled.

With respect to claim 8, the Examiner has provided absolutely no discussion of the rejection, and therefore by definition fails to meet the Examiner's initial burden of establishing a *prima facie* of obviousness see e.g., Graham v. Deere.

Independent claim 8 positively recites a combination of features including wherein outer surface of the sloping surface of the discharging cover slopes in response to the sloping surface, and a thickness of a wall formed by the sloping surface of the discharging cover and the outer surface thereof is constant.

The feature of a thickness of a wall formed by the sloping surface of the discharging cover and the outer surface thereof is constant is not even addressed in the rejection. For this reason alone, the rejection is improper and fails to make out a *prima facie* case of obviousness of claim 8 by DE 75 13 261. Moreover, Figs. 1, 3 and 4 clearly show a wedge-shaped outer wall in DE 75 13 261.

Although this argument was presented in the Amendment filed on March 9, 2006 (in the context of the anticipation rejection based on DE '261), the outstanding Office Action does not address it, contrary to the requirement in MPEP §707.07(f) to address all of Applicants' grounds of traversal on their merits. For this reason alone, this rejection of claim 8 is improper and should be withdrawn.

Furthermore, Applicants point out that the top of cover 4 of DE '261 is wedge shaped and, thus, is not constant, a feature which neither discloses nor suggests the claimed constant thickness feature

Further, with respect to claim 12, this claim positively recites a combination of features, including wherein the discharging valve has a compression plane on one side thereof for contacting the cylinder and a sloping surface located on the opposite side thereof by which the valve spring is supported.

The Office Action addresses the sloping surface feature by improperly

relying on the *per se* rule of unpatentability that a mere reversal of parts is an expedient that is obvious to one of ordinary skill in the art.

As pointed out above, the Office Action's position in this regard is completely at odds with established precedential case law of the Court of Appeals for the Federal Circuit. As stated by the Federal Circuit in In re Ochiai, 71 F.3d 1565, 1572, 37 USPQ2d 1127, 1133 (Fed. Cir. 1995), "reliance on *per se* rules of obviousness is legally incorrect and must cease."

Moreover, the assertion that such a reversal would not change the operation of the device begs the question of proper motivation to provide such a reversal and fails to provide objective factual evidence or proper motivation to modify DE 75 13 261, as suggested.

In response to these previously presented arguments, the Office Action speculates that "such a reversal would not change the operation of the DE '261 device since the spring force on the valve member (2) would still remain unbalanced and thus the functional equivalence of the two arrangements would allow one of ordinary skill in the art . . . to use either arrangement."

Applicants respectfully disagree with this speculative conclusion for a number of reasons.

Firstly, opening and closing of a valve plate from its valve seat is clearly an operational aspect of the device, so the operational aspects of the device will clearly be affected by the opening and closing of the valve plate. In this regard,

the Office Action fails to provide any objective factual evidence that placing the slanted surface on the discharge valve surface will not change any operational characteristic.

Secondly, if modifying DE '261 to provide a discharge valve sloping surface were so obvious, then why didn't DE '261 disclose such a modification, when it did disclose two other modifications, i.e., on page 6, lines 14-16, where it proposed modifying the interior area 5 of the catch inclined to the valve seat area 6 to be constructed by means of a special wedge piece or a hump on the catch interior area. In this regard, applicants respectfully submit that DE '261 was disclosed by one of at least ordinary skill in the art and the fact that that person did not disclose or suggest the claimed sloping surface on the discharge valve surface, while disclosing other modifications, is objective factual evidence that the proposed modification of DE '261 regarding claim 12 is not obvious.

Thirdly, the "functional equivalence" rationale on which this rejection is based is nothing more than an improper *per se* rule of unpatentability. Moreover, while functional equivalence may be relevant to the issue of patent infringement, the Office Action fails to demonstrate that just because something is recognized as being the functional equivalent of another thing, that fact alone is not objective factual evidence of proper motivation to modify a reference to achieve any functional equivalent.

Accordingly, the Office Action fails to make out a *prima facie* case of

obviousness of the invention recited in claim 12. Moreover, because claims 13-20 depend on claim 12, the Office Action fails to make out a *prima facie* case of obviousness of the invention recited in claims 12-20.

Further, with respect to claim 14, the Office Action fails to make out a *prima facie* case of unpatentability of the additional feature recited in claim 14, i.e., of the valve spring having different elastic stiffness at both sides from its center.

Accordingly, the Office Action fails to make out a *prima facie* case of obviousness of the invention recited in claims 8, 12-16, 19 and 20.

Reconsideration and withdrawal of this rejection of claims 3, 8, 12-16, 19 and 20 are respectfully requested.

Claims 7, 11, 17, 18 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over DE 75 13 261 as applied in the rejection of claims 4-6 and 10, and further in view of U.S. Patent Application Publication US 2002/0150488) to Lee et al. ("Lee"). This rejection is respectfully traversed.

With respect to claims 7 and 11, these claims depend on claim 4, the subject matter of which is not disclosed by DE 75 13 261, as explained above. So, even if one of ordinary skill in the art were properly motivated to provide a conical spring in DE 75 13 261, the modified version of this reference would not meet or render obvious the claimed invention.

Furthermore, instead of providing objective factual evidence of proper motivation for one of ordinary skill in the art to provide a conical spring in DE 75 13 261, the Office Action improperly relies on a *per se* rule of unpatentability, i.e., that the specific choice of a conical spring is a design expedient over those features disclosed in the DE '261 document in that it neither solves any stated problem nor provides any new and/or unexpected result.

The Office Action's position in this regard is completely at odds with established precedential case law of the Court of Appeals for the Federal Circuit. As stated by the Federal Circuit in In re Ochiai, 71 F.3d 1565, 1572, 37 USPQ2d 1127, 1133 (Fed. Cir. 1995), "reliance on *per se* rules of obviousness is legally incorrect and must cease."

Moreover, this rejection impermissibly eliminates the Office's burden of providing objective factual evidence of proper motivation and improperly places the burden on Applicants of stating why providing a conical spring is not obvious.

Additionally, Lee is not being applied to remedy the aforementioned deficiencies of DE 75 13 261. Accordingly, even if it were obvious to modify DE 75 13 261 as suggested, the resulting modification would neither meet nor render obvious the claimed invention.

Further, with respect to claim 17, 18 and 20, which depend from claim 12, Applicants respectfully note that DE 75 13 261, as applied in the rejection of

claims 4-6 and 10 does not even address all of the features of claim 12 and, for this reason alone, the rejection is improper.

The outstanding Office Action fails to comment on these previously presented arguments, contrary to the requirement in MPEP §707.07(f) to do so, and this rejection is improper at least for this reason alone.

Moreover, Applicants respectfully submit that even if it were obvious to modify DE 75 13 261 in view of Lee, as suggested, the resulting modification would not meet or render obvious the features of claim 12, from which claims 17, 18 and 20 depend, at least for reasons stated above.

Accordingly, this rejection of claims 7, 11, 17, 18 and 20 does not make out a *prima facie* case of obviousness of the invention recited in those claims.

Reconsideration and withdrawal of this rejection are respectfully requested.

Status of Claim 9 is unclear

Although the Office Action Summary sheet, Form PTOL-326 indicates that claims 3-20 are pending and are rejected, the body of the office Action fails to reject or even address claim 9. Under the circumstances, it appears to claim 9 contains allowable subject matter. Applicants have not amended claim 9, however, because of Applicants belief that claim 4, from which claim 9 depends,

is allowable for reasons presented above, thus making claim 9 allowable at least for those reasons.

Clarification of the status of claim 9 is respectfully requested

New Claims 21-24

Dependent claims 21-24 have been added to positively recite a feature that is responsible for different elastic spring stiffness. Support for this amendment is found throughout Applicants' originally filed disclosure including, for example, the two full paragraphs on page 10 of the main body of Applicants' specification.

Reply to Arguments

Applicants have responded to the Examiner's Response Arguments, found on pages 5 and 6 of the outstanding Office Action, in the remarks, above, as part of the traversal of each rejection of record.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the

outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Robert J. Webster, Registration No. 46,472, at (703) 205-8000, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

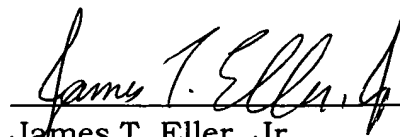
If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Date: September 6, 2006

Respectfully submitted,

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